

AMENDMENTS TO THE CLAIMS

1. (previously presented) A method for measuring a parameter of a circuit under test, the method comprising:

- (a) charging a first portion of a test circuit up to a first voltage level;
- (b) charging a second portion of said test circuit up to a second voltage level;
- (c) disconnecting said test circuit from respective voltage terminals providing said first and second voltage levels; and
- (d) measuring said parameter of said circuit under test with said test circuit.

Claim 2 (canceled)

3. (previously presented) The method of claim 1, wherein said act of charging a first portion comprises charging a first capacitor of said test circuit to a power rail voltage level, and wherein said act of charging a second portion comprises charging a second capacitor of said test circuit to a predetermined reference voltage level.

4. (original) The method of claim 3, wherein said act of charging a first capacitor comprises charging said first capacitor to Vdd.

5. (original) The method of claim 3, wherein said act of charging a second capacitor comprises charging said second capacitor to an initial reference voltage level.

6. (previously presented) The method of claim 3 further comprising:

changing said predetermined reference voltage level; and

repeating acts (a) through (d) if said measured parameter does not have a predetermined relationship with said predetermined reference voltage level.

7. (original) The method of claim 6, wherein said act of changing said predetermined reference voltage comprises changing said reference voltage level from an initial reference voltage level.

8. (previously presented) The method of claim 6, wherein said act of repeating comprises repeating acts (a) through (d) if a measured voltage is not less than said predetermined reference voltage level.

9. (previously presented) The method of claim 8, wherein said act of repeating comprises repeating acts (a) through (d) if a voltage measured at a ground terminal is not less than said predetermined reference voltage level.

10. (previously presented) The method of claim 6, wherein said act of repeating comprises repeating acts (a) through (d) if a measured voltage is not less than said predetermined reference voltage level.

11. (previously presented) The method of claim 10, wherein said act of repeating comprises repeating acts (a) through (d) if a voltage measured at a power rail of said circuit under test is not less than said predetermined reference voltage level.

12. (original) The method of claim 1, wherein said act of disconnecting comprises disconnecting said test circuit from a power rail of said circuit under test.

13. (original) The method of claim 12, wherein said act of disconnecting comprises disconnecting said test circuit from a Vdd terminal.

14. (original) The method of claim 12, wherein said act of disconnecting comprises disconnecting said test circuit from a reference voltage terminal.

15. (original) The method of claim 13, wherein said act of disconnecting comprises toggling a state of a transistor coupled between said test circuit and said Vdd terminal.

16. (original) The method of claim 14, wherein said act of disconnecting comprises toggling a state of a transistor coupled between said test circuit and said reference voltage terminal.

17. (original) The method of claim 1, wherein said act of measuring comprises comparing a sensed voltage with a reference voltage.

18. (original) The method of claim 17, wherein said act of comparing comprises comparing a voltage sensed at a ground terminal of said circuit under test with a reference voltage.

19. (original) The method of claim 17, wherein said act of comparing comprises comparing a voltage sensed at a power rail of said circuit under test with a reference voltage.

20. (original) The method of claim 18, wherein said act of comparing comprises toggling a state of a transistor coupled between the test circuit and said ground terminal being sensed.

21. (original) The method of claim 19, wherein said act of comparing comprises toggling a state of a transistor coupled between the test circuit and said power rail being sensed.

22. (original) The method of claim 1 further comprising quantifying ground bounce for said circuit under test.

23. (original) The method of claim 1 further comprising quantifying power droop for said circuit under test.

24. (previously presented) A test circuit for measuring a parameter of a circuit under test, said test circuit comprising:

a first charging portion for charging a first portion of said test circuit to a first voltage level;

a second charging portion for charging a second portion of said test circuit to a second voltage level;

respective switches within said first and second charging portions for disconnecting said test circuit from terminals respectively providing said first and second voltage levels; and

a measuring portion for measuring a parameter of said circuit under test while said test circuit is disconnected from said terminals.

25. (previously presented) The test circuit of claim 24, wherein said first charging portion comprises a first storage capacitor for storing a charge of said first voltage level.

26. (previously presented) The test circuit of claim 25, wherein said switch within said first charging portion comprises a first transistor, a first side of said first transistor being coupled to said first storage capacitor, a second side of said first transistor being coupled to said terminal providing said first voltage level.

27. (previously presented) The test circuit of claim 24, wherein said measuring portion comprises a comparator.

28. (original) The test circuit of claim 27, wherein a first input of said comparator is coupled to said circuit under test for sensing said parameter.

29. (original) The test circuit of claim 28 further comprising a switch coupled between said first input of said comparator and said circuit under test.

30. (original) The test circuit of claim 29, wherein said switch comprises a transistor.

31. (previously presented) The test circuit of claim 28, wherein a second input of said comparator is coupled to said terminal providing said second voltage level, said terminal being a reference voltage terminal for providing a reference voltage, said comparator comparing said reference voltage with said sensed parameter of said circuit under test.

32. (previously presented) The test circuit of claim 31 wherein said switch within said second charging portion comprises a switch coupled between said second input of said comparator and said reference voltage terminal for disconnecting said second input of said comparator from said reference voltage terminal.

33. (previously presented) The test circuit of claim 32, wherein said switch within said second charging portion comprises a transistor.

Claim 34 (canceled)

35. (previously presented) The test circuit of claim 32, wherein said second charging portion comprises a second storage capacitor for providing said reference

voltage to said second input of said comparator when said second input is disconnected from said reference voltage terminal.

36. (original) The test circuit of claim 27, wherein said comparator further comprises an output for producing a signal when said parameter, as measured, has a predetermined relationship with a reference voltage.

37. (original) The test circuit of claim 24, wherein said test circuit is integrated onto a semiconductor die.

38. (previously presented) A semiconductor die comprising:

at least one circuit to be tested; and

at least one test circuit for measuring a parameter of said at least one circuit to be tested, said at least one test circuit comprising:

a first charging portion for charging a first portion of said at least one test circuit to a first voltage level;

a second charging portion for charging a second portion of said at least one test circuit to a second voltage level;

respective switches within said first and second charging portions for disconnecting said at least one test circuit from terminals respectively providing said first and second voltage levels; and

a measuring portion for measuring said parameter of said at least one circuit to be tested while said at least one test circuit is disconnected from said terminals.

39. (previously presented) The die of claim 38, wherein said first charging portion comprises a first storage capacitor for storing a charge of said first voltage level.

40. (previously presented) The die of claim 39, wherein said switch within said first charging portion comprises a first transistor, a first terminal of said first transistor being coupled to said first storage capacitor, a second terminal of said first transistor being coupled to said terminal providing said first voltage level.

41. (previously presented) The die of claim 38, wherein said measuring portion comprises a comparator.

42. (original) The die of claim 41, wherein a first input of said comparator is coupled to said at least one circuit to be tested for sensing said parameter.

43. (original) The die of claim 42 further comprising a switch coupled between said first input of said comparator and said at least one circuit to be tested.

44. (original) The die of claim 43, wherein said switch comprises a transistor.

45. (previously presented) The die of claim 42, wherein a second input of said comparator is coupled to said terminal providing said second voltage level, said terminal being a reference voltage terminal for providing a reference voltage, said comparator comparing said reference voltage with said sensed parameter of said at least one circuit to be tested.

46. (previously presented) The die of claim 45 wherein said switch within said second charging portion comprises a switch coupled between said second input of said comparator and said reference voltage terminal for disconnecting said second input of said comparator from said reference voltage terminal.

47. (previously presented) The die of claim 46, wherein said switch within said second charging portion comprises a transistor.

Claim 48 (canceled)

49. (previously presented) The die of claim 46, wherein said second charging portion comprises a second storage capacitor for providing said reference voltage to said second input when said second input is disconnected from said reference voltage terminal.

50. (original) The die of claim 38, wherein said comparator further comprises an output for producing a signal when said parameter, as measured, has a predetermined relationship with a reference voltage.

51. (previously presented) A semiconductor die comprising:

at least one circuit to be tested; and

at least one test circuit for measuring a parameter of said at least one circuit to be tested, said at least one test circuit comprising:

a comparator coupled to a power source, said comparator having a first input for receiving a sensed voltage and a second input for receiving a reference voltage;

a first storage capacitor coupled to said power source and also coupled to said comparator, said first storage capacitor being used for storing a voltage supplied by said power source and also for providing power to said comparator when said comparator is disconnected from said power source;

a second storage capacitor coupled to a reference voltage source and also coupled to said second input of said comparator, said second storage capacitor being used for storing a reference voltage provided by said reference voltage source and also for providing said second input of said comparator with said reference voltage when said comparator is disconnected from said reference voltage source.

52. (original) The die of claim 51 further comprising:

a first transistor coupled between said first input of said comparator and said at least one circuit to be tested for toggling said comparator in and out of electrical contact with said at least one circuit to be tested;

a second transistor coupled between said second input of said comparator and said reference voltage source for toggling said comparator in and out of electrical contact with said reference voltage source;

a third transistor coupled between said comparator and said power source for toggling said comparator in and out of electrical contact with said power source.

Claims 53-98 (canceled)